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that known by the name of the fuming liquor of Libavius. Weak muriatic acid first came over; and then the muriate either passed into the receiver, or sublimed into the neck of the retort in a white mass, known formerly under the name of the butter of tin. With the same view he passed muriatic gas as dry as possible through the concentrated mother water, of muriate of tin, when it became fuming, and yielded crystals on mixing with it pure water. But it must be observed that the fuming liquor of Libavius emits much more dense and copious vapours, that it is whiter, and that its specific gravity is greater.

The combinations of muriatic acid and tin in the state of solution, of crystals, or of mother water, have always an excess of acid; and from what has been said it appears, that they are all capable of infinite variations in their state. Hence we need not be surprized if the effect they produce in dyeing are so uncertain and so different from one another. The least variable state of muriate of tin appears to be that of crystals perfectly white and thoroughly drained. In this state this mordant ought always to be employed in dyeing, adding to it a larger or smaller proportion of nitric acid, according to the shade we wish to produce. Such a composition alone can be uniform, and yield constant results.

Profiting by the facts detailed in this paper, it appears easy to give a simple and advantageous process for preparing the crystallized muriate of tin in the large way, yet the author has met with very perplexing difficulties in the attempt to carry it into execution. These however he has at length been able to surmount, and the description of the method he pursued will form the subject of another paper.

Improved mode of preparing Phosphorus Bottles.

Phil. Journ. Vol. 26, p. 105.

Phosphorus cut into small pieces, and mixed with quick lime in powder, answers the purpose very well. The phosphorus should be carefully dried by filtering paper; a thin slice being cut may be divided into as many pieces, as can be expeditiously done,

and each piece be introduced into a small bottle with as much lime, as will surround it. Lime slacked in the air, and submitted to a strong heat in a black lead crucible for twenty minutes, is in a good state for the purpose.

The bottle, when full, may be exposed, corked, to the radiant heat of the fire, till some pieces of the phosphorus have assumed an orange tint: it will then be ready for immediate use. But the heating is not absolutely necessary, if the bottle is not wanted for immediate use, and it will continue longer in a serviceable state.

It is almost superfluous to observe that in using the bottle, the mouth should be closed with the finger as soon as the match is withdrawn.

The author of this paper has been in the habit of preparing a bottle by this method, at the conclusion of winter, for the purpose of lighting a lamp furnace during the summer months, when access to fire was not convenient. A narrow quarter ounce bottle has generally continued serviceable four or five months, though very frequently used.

Account of an Island containing 216 acres gained from the sea, by John Harriot, esq.

Mr. Harriot in his excursions in a boat which he kept for his amusement in the navigable river near which he lived, had frequently noticed a sunken island, containing between two and three hundred acres of land, dry at low water and covered at half tide. This island being put up to auction with other property of its owner after his decease, Mr. Harriot purchased it for £40, some others having bid for it contrary to the general expectation; this purchase was made in the month of May, and from that period he began to make preparations for embanking it from the sea.

He sent to the fens of Lincolnshire, and other places, for men suited for the work; and had a building framed for their accommodation, and erected on the island high enough to prevent the tide from flowing into it, kept a boat to attend it and employed a man to keep a kind of sutling